

REMARKS

Support for the amendment to claim 1 can be found in original claim 2 and in Applicants specification on page 15, lines 9-23. “Gels made from metal alkoxides will self-mend and reform a monolith....” Support for the amendment to claim 6, can be found in Applicants specification on page 6, lines 7-11 and on page 19, lines 1-3, respectively. “Solution Addition: The energetic material constituent is dissolved in a solvent which is compatible with the reactive monomer and mixed into the pre-gel solution prior to gelation. Upon gelation, the energetic material constituent is uniformly distributed within the pores of the solid network formed by the polymerization of the reactive monomer.”... “Monolithic aerogels prepared by the solution addition of RDX showed that monolithicity was maintained in compositions up to 45 wt.% RDX in a 55 wt.% SiO₂ matrix.”

Claim Rejections under 35 U.S.C. §103(a)

Claims 1, 2, 5, and 6 were rejected as being unpatentable over Ochi et al. (5,470,406).

Under MPEP § 2142, there are three requirements to establish a prima facie case of obviousness.

- 1) There must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine reference teachings.
- 2) There must be a reasonable expectation of success.
- 3) The prior art reference (or references when combined) must teach or suggest all the claim limitations.

It should be noted that the teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Applicants respectfully suggest that the rejection fails under prong 3 of the obviousness test in that the references do not teach or suggest all the claim limitations. Claim 1 as amended recites "providing a predetermined amount of a monolithic gel made from a metal alkoxide...and drying said uniform dispersion to reform said gel to form a monolithic composite wherein said energetic material is uniformly dispersed throughout said monolithic reformed gel." Claim 6 as amended recites, "[d]rying said gel to form a monolithic energetic composite having energetic molecules crystallized within the pores of a silicon sol-gel material." The Applicants respectfully submit that Ochi et al. does not disclose providing a monolithic gel as recited in claim 1. The Applicants additionally submit that Ochi et al. does not disclose forming a monolithic composite from either (1) the fractionation and reformation of said monolithic gel as claimed by Applicants in claim 1 or (2) the drying of gel precursor solution as claimed by Applicants in claim 6.

The Examiner stated on page 2 of the Office Action that "Ochi et al discloses the method as claimed and includes adding an energetic material to a gel where the energetic material (azide) is dispersed throughout and the gel includes an alkoxide."

Applicants respectfully submit that Ochi et al. specifically teach a method to form a powdered product as opposed to method to form a monolithic product as claimed by Applicants.

Specifically, in col. 6, lines 53-59 Ochi et al. state, “[t]he gas generator slurry thus blended substantially homogeneously is fed into the drying column of the spray dryer by a liquid pump or the like, and is sprayed in a droplet form there through a nozzle or a rotary atomizer. The droplets are granulated and dried during the stay in the drying column, yielding a powder (granule) of gas generator composition.” Thus, Applicants respectfully submit that independent claims 1 and 6 are allowable over the cited reference. Since claims 3-5 ultimately depend on claim 1, Applicants respectfully suggest that these claims are also allowable over the cited references.

CONCLUSION

Reconsideration and allowance of claims 1 and 3-6 is respectfully requested. The Applicants respectfully submit that no new matter has been introduced by these amendments to the claims.

In the event that the Examiner finds any remaining impediment to the prompt allowance of these claims that could be resolved by a telephone conference, the Examiner is urged to contact the undersigned.

Respectfully submitted,

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By: 
Amy M. Lee
Registration No. 47,741

Lawrence Livermore National Lab
7000 East Avenue, L-703
Livermore, CA 94550

TEL: (925)422-6458

FAX: (925)423-2231